



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,376	07/28/2003	Qiang He	14565.0014US01	6537
6537 7590 04/26/2007 ATOCHEM PATENT DEPARTMENT LA DEFENSE 10 CEDEX 42 92091 PARIS FRANCE, 111111111 FRANCE			EXAMINER WILSON, ROBERT W	
			ART UNIT 2616	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/26/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/629,376	HE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Robert W. Wilson	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In general claims 1-10 are a literal translation in to English and because these claims were literally translated they are indefinite and unclear.

Referring to claim 1, it is unclear whether a value in the multicast message must be matched or there is a rule for looking for a value in a header which must be matched; therefore, this claim is indefinite. It is unclear what configuring means in this claim. What is meant by "configuring" & "the forwarding match condition regulating the forwarding rule"? There is no also no antecedent basis for "the network".

Referring to claim 3, what is meant by "if yes" and "if no"?

Referring to claim 6, what is meant by "matching entry interface information"?

Referring to claim 7, what is meant by "determining whether the multicast message forwarding rule is configured at the interface of the network"? This limitation makes no sense. What is meant by "if yes" "if no"? "the multicast routing forwarding list" has no antecedent basis.

Referring to claim 8, what is meant by "if yes" and "if no"? Claim 7 is a multiple dependent claim. The applicant refers to "the multicast routing forwarding list" which has no antecedent basis until claim 7.

Referring to claim 9, what is meant by "determining the message forwarding destination configured in the multicast message forwarding rule is the forwarding exit interface of the next hop"? What is meant by if the destination is the forwarding exit interface and for the message configured lots of forwarding exit interfaces, the message being forwarded to all interfaces after copied"? What is meant by "if the destination is the next hop address forwarding the message list and for the message configured lots of next hops, the message is forwarded to all addresses of the next hops after copied"?

Referring to claim 10, what is meant by "c231. searching the single broadcast routing forwarding list and determining the type of exit interface corresponding to the next hop address c232 if the

Art Unit: 2616

type of exit interface is NBMA (point to multipoint) forwarding the message according to the exit interface c233 if the type of exit interface is broadcast, forwarding g the message according to the next hop address in the single broadcast routing forwarding list and setting the property of the message as single broadcast message c.234 if the type of exit interface is PTP directly forwarding the message according to the next hp address regulated in the multicast message forwarding rule”

### *Specification*

3. The disclosure is objected to under 37 CFR 1.71, as being so incomprehensible as to preclude a reasonable search of the prior art by the examiner. For example, the following items are not understood:

The summary of the invention is a repeat of the literal translation of the claim language and provide no added value in providing a written description which would be enabling relative to 112/ 1<sup>st</sup> for the interpretation of the claim language.

The examiner requests that the applicant refer to the items that the examiner has recited 112/2<sup>nd</sup> paragraph issues which the examiner states are indefinite because the specification does not clarify these issues so the metes and bounds of the claims can be assessed.

Applicant is required to submit an amendment which clarifies the disclosure so that the examiner may make a proper comparison of the invention with the prior art.

Applicant should be careful not to introduce any new matter into the disclosure (i.e., matter which is not supported by the disclosure as originally filed).

### *Claim Rejections - 35 USC § 112*

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in

Art Unit: 2616

the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Referring to claim 1 & 7, where in the specification does the applicant provide adequate written description to specific how the entry interface can be determined it has been configured or not configured as specified in claims 1 and 7 respectively.

Referring to claims 9 & 10, where in the specification does interface is a next hop address or exit interface is address is a point to multipoint, point to multipoint or single broadcast address.

### *Claim Objections*

6. Claim 10 is objected to because of the following informalities: The examiner objects to the usage of the abbreviations “NBMA” and “PTP” in claim 10. The examiner requests that the applicant spell out the meaning at least once in the claim language before using the abbreviation. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller (U.S.

Patent No.: 6,873,627).

Referring to claim 1, Miller teaches: a method for forwarding multicast message in network communication (22 per Fig 3 performs the method)

A configuring a forwarding match condition at an entry interface to the network device requiring forwarding multicast message the forwarding match condition regulating forwarding rule for the multicast message 22 per Fig 3 is which is statically configured per col. 14 line 66-col. 15 line 7 to determine if a multicast packet has a multicast announce address and if it does then there are a forwarding rule set associated with the packet per col. 8 line 10 to col. 10 line 8)

Art Unit: 2616

- b. matching the multicast message to be forward to network device through the interface with the forwarding match condition (22 per Fig 3 has an inherent interface and Figure 5 has a forwarding rules based upon matching receiver)
- c. forwarding the multicast message according to the match result (22 per Fig 3 forwards the packet based upon Fig 5)

In Addition Miller teaches:

Regarding claim 2, wherein said forwarding match condition is a multicast message forwarding rule group consisting of more than one multicast forwarding rule (Fig 5 has more than one forwarding rule)

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 3 & 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller (US Patent No.: 6,873,627) in view of Kalkunte (US patent No.: 6,567,417)

Referring to claim 3, Miller teaches a method for forwarding multicast message in network communication of claim 2 and wherein said step b comprises:

B1. determining whether message entering through the interface is multicast message (multicast announce address per col. 8 line 10 to col. 10 line 8)

B2. if yes matching the multicast message with individual multicast message forwarding rule contained in the forwarding match condition (Fig 5)

Miller does not expressly call for: B3. if no, forwarding the message in single broadcast mode

Kalkunte teaches: B3. if no, forwarding the message in single broadcast mode (If message is not a multicast but is a UNICAST or single broadcast then forwarding the packet is forwarded based upon a forwarding table per col. 4 line 59 to col. 5 line 26)

Art Unit: 2616

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the if no, forwarding the message in single broadcast mode of Kalkunte to the processing of Miller in order to build a system forward Unicast packets as well as multicast packets.

Referring to claim 7, the combination of Miller and Kalkunte teach: the method for forwarding multicast message in a network communication of claim 3, Miller teaches: wherein said step b2 comprises: b21, determining whether the multicast forwarding rule is configured at the interface of the network (The device inherently know whether to utilize statically configured rule or automatic rule)

B22 if yes matching the information carried by the multicast message with the corresponding information in the multicast message forwarding rule ( If match refer to Fig 5)

The combination of Miller does not expressly call for: if no forwarding the multicast message according to the multicast routing forwarding list.

Kalkunte teaches: if no forwarding the multicast message according to the multicast routing forwarding list (If the message is a broadcast message which is a special kind of multicast message refer to broadcast table per col. 5 lines 27 to 41)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the if no forwarding the multicast message according to the multicast routing forwarding list of Kalkunte to the system of the combination of Miller and Kalkunte in order to be able to route broadcast packets.

Referring to claim 8, Miller teaches the method for forwarding multicast message in network communication of claim 2 wherein said step c comprises: c1. determining whether there is multicast message forwarding rule matching with the information carried by the multicast message in the forwarding match condition (Does message multicast operational code per col. 8 line 11 to col. 10 line 5)

C2 if yes, forwarding the multicast message according to the multicast message forwarding rule (Forward according to Fig 5)

Miller does not expressly call for: c3 if no, forwarding the multicast message according to the multicast routing forwarding list

Kalkunte teaches: c3 if no, forwarding the multicast message according to the multicast routing forwarding list ("If broadcast message which is a special kind of multicast message which would mean no refer to separate table per col. 5 lines 28 to 42)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the if no, forwarding the multicast message according to the multicast routing forwarding list of Kalkunte to the system of Miller and Kalkunte in order to be able to route broadcast messages which are special kind of multicast message.

Art Unit: 2616

Referring to claim 9, the combination of Miller and Kalkunte teach: the method of claim 8 and

Miller does not expressly call for: c21. determining the message forwarding destination of the multicast forwarding rule is the exit interface and if the destination is the forwarding exit interface, and for the message configured lots of forwarding exit interfaces the message being forward to all interfaces

Kalkunte teaches: c21. determining the message forwarding destination of the multicast forwarding rule is the exit interface and if the destination is the forwarding exit interface, and for the message configured lots of forwarding exit interfaces the message being forward to all interfaces (inherently determined if the multicast message is being forwarded to an exit port on the switch to make copies per col. 5 line 43 to line 60

It would have been obvious to one of ordinary skill in the art at the time of the invention to add determining the message forwarding destination of the multicast forwarding rule is the exit interface and if the destination is the forwarding exit interface, and for the message configured lots of forwarding exit interfaces the message being forward to all interfaces of Kalkunte to the system of the combination of Miller and Kalkunte in order to build a system routes multicast packets through a switch.

Referring to claim 10, the combination of Miller and Kalkunte teach: the method of claim 9 and wherein said step c23 comprises: c231 searching the single broadcast routing forward list and determining the type exit interface corresponds to next hop (switch output port)

Miller does not expressly call for: C232 if the type of exit interface is NMBA (point to point multipoint) forward the message according to the exit interface

Kalkunte teaches: if the type of exit interface is NMBA (point to point multipoint) forward the message according to the exit interface (col. 4 lines 65 to col. 5 line 27.

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the if the type of exit interface is NMBA (point to point multipoint) forward the message according to the exit interface of Kalkunte to the system of the combination of Miller and Kalkunte in order to route unicast packets.

13. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller (US Patent No.: 6,873,627) in view of Kalkunte (US patent No.: 6,567,417) further in view of Fox (US Patent No.: 7,039,052)



Art Unit: 2616

Referring to claim 4, The combination of Miller and Kalkunte teach: the method for forwarding multicast message in a network communication of claim 3 and forwarding a multicast packet based upon a rule due to matching (Fig 5 of Miller)

The combination of Miller and Kakunte do not expressly call for: matching based upon Source address.

Fox teaches: matching based upon source address (multicast message origination form subnetwork A (source address) are distributed to subnetwork B and D per col. 6 lines 1-67)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the matching based upon source address of Fox to the system which forward multicast packets based upon rules of the combination of Miller and Kalkunte because forwarding message based upon source address in order to filter multicast packets based upon source address in order to improve network security.

14. Claim 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller (US Patent No.: 6,873,627) in view of Kalkunte (US patent No.: 6,567,417) further in view of Hill (US Patent No.: 6,870,840)

Referring to claim 5, the combination of Miller and Kalkunte teach: the method for forwarding multicast message in a network communication of claim 3, and forwarding a multicast packet based upon a rule due to matching (Fig 5 of Miller)

The combination of Miller and Kakunte do not expressly call for: matching based upon source and destination address

Hill teaches: matching based upon source address and destination address (multicast message is store in a queue based upon source and destination address per col. 3 lines 1 to 30)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the matching based matching based upon source address and destination address of Hill to the system which forward multicast packets based upon rules of the combination of Miller and Kalkunte in order to create a flow of packets which can be sent based upon priority. .

In Addition Miller teaches:

Regarding claim 6, wherein said step b2 comprises step of matching the entry interface information in the multicast message with the entry interface information in the multicast message forwarding rule (The reference teaches that the Destination address which is in the header is used by the inherent entry interface in order to look up data in Fig 5)

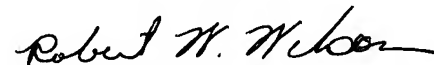
Art Unit: 2616

***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W. Wilson whose telephone number is 571/272-3075. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D. VU can be reached on 571/272-73155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Robert W Wilson  
Examiner  
Art Unit 2616

RWW  
4/20/07